

10/28/95

Sequence Listing

<110> Susan Marie Metcalfe  
 <120> Method of Inducing or Modulating Immune Response  
 <160> 4  
 <210> 1  
 <211> 2728  
 <212> mRNA  
 <213> Homo Sapiens  
 <400> 1

```

ggtggctggt tctgcgccgg atccgggaga ggggcgggcg ccattgtgct tcgctgccga      60
ctgcatttcc tcagtcacgg gcctagaact ccaaggagaa aggcggcgaa aaatctttaa      120
gaatggagtc taaaccttca aggattccaa gaagaatttc tgttcaacct tccagctcct      180
taagtgctag gatgatgtct ggaagcagag gaagtagttt aaatgatacc tatcactcaa      240
gagactcttc atttagattg gattctgaat atcagttctac atcagcatca gcatctgcgt      300
caccatttca atctgcatgg tatagtgaat ctgagataac tcagggagca cgctcaagat      360
cgcagaacca gcaacgggat catgattcaa aaagacctaa actttcctgt acaaactgta      420
ctacctcagc tgggagaaat gttggaaatg gtttaaacac attatcagat tcatcttgga      480
ggcatagtca agttcctaga tcttcatcaa tgggtacttg atcatttgga acagacttaa      540
tgagagagag gagagatttg gagagaagaa cagattcctc tattagtaat cttatggatt      600
atagtcaccg aagtgggtgat ttcacaactt catcatatgt tcaagacaga gttccttcat      660
attcacaagg agcaagacca aaagaaaact caatgagcac tttacagttg aatacatcat      720
ccacaaacca ccaattgcct tctgaacatc agaccatact aagttctagg gattccagaa      780
attctttaag atcaaatttt tcttcaagag aatcagaatc ttcccgaagc aatacgcagc      840
ctggattttc ttacagttca agtagagatg aagccccaat cataagcaat tcagaaaggg      900
ttgtttcatc tcaaagacca tttcaagaat cttctgacaa tgaaggtagg cggacaacga      960
ggagattgct gtcacgcata gcttctagca tgtcatctac ttttttttca cgaagatcta     1020
gtcaggattc cttgaataca agatcattga attctgaaaa ttcttacgtt tctccaagaa     1080
tcttgacagc ttcacagtcg cgtagtaatg taccatcagc ttctgaagtt cccgataata     1140
ggcgctctga agcttctcag ggatttcgat ttcttaggcg aagatggggg ttgtcatctc     1200
ttagccacaa tcatagctct gagtcagatt cagaaaattt taaccaagaa tctgaaggta     1260
gaaatacagg accatgggta tcttctcac ttagaaatag atgcacacct ttgttctcta     1320
gaaggaggcg agaggaaga gatgaatctt caaggatacc tacctctgat acatcatcta     1380
gatctcatat ttttagaaga gaatcaaag aagtgggttc ccttgaagca cagaatgatc     1440
ctcttgagc tgctgccaac agaccacaag catctgcagc atcaagcagt gccacaacag     1500
gtggctctac atcagattcg gctcaagggt gaagaaatag aggaatatca gggattcttc     1560
ctggttcctt attccgggtt gcagtcctcc cagcacttgaggagtaatttg accgacaatg     1620
tcatgatcac agtagatatt attccttcag gttggaattc agctgatggg aaaagtgata     1680
aaactaaaag tgcgccttca agagatccag aaagattgca gaaaataaaa gagagcctcc     1740
ttttagagga ctcagaagaa gaagaagggt acttatgtag aatttgtcaa atggcagctg     1800
catcatcatc taatttgctg atagagccat gcaagtgcac aggaagtttg cagtatgtcc     1860
accaagactg tatgaaaaag tggttacagg ccaaaattaa ctctgggttct tcattagaag     1920
ctgtaaccac ctgtgaacta tgtaaagaga agttggagct taacctggag gattttgata     1980
ttcatgaact acatagagct catgcaaag aacaagctga gtatgagttt atcagctctg     2040
gtctctacct agtgggtgta ttgcacttgt gcgaacaaag cttttctgat atgatgggaa     2100
atacaaatga accaagcaca cgtgtccgat ttattaacct tgcaagaact cttcaggcac     2160
atatggaaga tctcgaaact tcagaggatg attccgaaga agacggagac cataacagga     2220
catttgatat tgcctaactt catataagac agatggatga tctgtgaaca taagtgttta     2280
ttaaaaatgg caattaaata taaattactt ttgtggggga atgcctaata aatacattga     2340
ctatatataa aatgaatata tacatacaca tgtatgcctg tatatatata ttcattctcc     2400

```

agtgttgctg	aattaaaatt	ctgctggact	ttttaacata	gcaaattccga	tgtttataaa	2460
ctggtaatca	aaaaggtttt	ttcttttagg	tgagtgggaa	agtattaccc	ttgttttaaa	2520
tatctaagca	atgcctatca	accctttttt	gtgttatgat	tactgtagtc	atatttatga	2580
aaaaaggttt	gtgttttact	cttgctagt	agaaaagtgg	gacaaaatat	acttttgaaa	2640
taaaatgcta	tatggcacct	aattattttt	tcttttaaaa	tgccttaagt	tgcagtctca	2700
ttttgataat	catttgcttc	cagtgttt				2728

<210> 2

<211> 2720

<212> mRNA

<213> Mus musculus

<400> 2

cgcattccgga	ggggcgggccg	ccattgtgct	tcgtcgccga	cttctctgcc	ggtagcccgga	60
gagccgagcc	gagcccagcg	aggaaggcgg	cggcggtgtg	gctgcggcga	gcgcgacact	120
ccctgcagcg	gagtgtctcg	tggaagaggg	aaaccttaag	aatggagtct	aaaccttcca	180
ggattccaag	aagaattttct	gttcaaccct	ctggctcttt	aagcactagg	atgggtgtctg	240
gaaacagagg	aaccagttta	aatgattcat	atcattctag	agactcctcc	tttagactgg	300
attctgaata	tcagtctgca	tcagcatcag	cgtgtgcac	accatgtcag	cctgcctggg	360
acagtgagtc	tgagatacct	cagggagcgc	gggcacgagc	acagaccag	cagcgggac	420
atgactcaaa	gagacccaag	ctttcctgta	caaactgtgc	atctacctca	gctgggagga	480
acggtgggag	tggtttaaat	acagtgtcag	attcttcttg	gaggcatagt	caagttccca	540
gatcttcac	aatggtactt	ggttcatttg	gaacagactt	gatgagagaa	aggagagatt	600
tggacaggag	aagagagtcc	tccatcagca	atcttatgga	ttataatcac	cgaagtgggtg	660
atttcacaac	ttcatcatat	gttcaagaaa	gagttccttc	ttcatattca	cagggagcaa	720
gacaaaaga	gaatgcagtg	agcactttac	agttgaattc	atcatccacc	aatcaccaat	780
tgccttctga	ccatcagaca	gtaccaagtt	ctagggactc	cagtagaagt	tctttcagat	840
cacatttttc	tccaagacaa	tcagaatctt	ttcgcaacag	ttcacatcct	gcattttcat	900
atttttcaag	tagaaatgaa	actccaacta	taagcaattc	agaaaggggt	tcattctcaga	960
gaccatatcg	agaatcttct	gacaatgaag	gtaggcgtag	aactaggaga	ttgctgtcac	1020
ggatagcttc	tagcatgtca	tctacttttt	tctcacgaag	atctagtcaa	gattccttga	1080
atacaagatc	tttgagtctt	gaaaattata	tttctccgag	aacctgact	tcacagtctc	1140
ggaataatgg	aacctcctcg	tcctctgacg	tcagtgaggg	cagggcagct	gaagcatctc	1200
agggatttag	atttcttagg	cgaagatggg	ggttgctcgtc	gctcagccaa	aatcatagct	1260
ctgaaccaga	ggcagaaaat	tttaaccaag	aatcagaagg	tagaaattca	ggaccatggg	1320
tgtcttcttc	acttagaaat	agatgcacac	ctttgttctc	gagaaggagg	cgagagggaa	1380
gggatgagtc	ttcaagaatg	tctacgtcag	atgtaccacc	tagatctcat	attttcagaa	1440
gagattcaaa	tgaagtagtt	catcttgaag	cacagggtga	ctcccttggg	gctgctgcca	1500
accgaccaca	agcatctgga	gcgtcaagca	gtgctgctgc	aggtggctcc	accccagagt	1560
tgcctcaggg	tggaagaaat	ccaggactaa	cagggattct	tcctggctcc	ttgttccggg	1620
ttgcagtccc	accagcactc	ggcagtaatc	tggctgacaa	tgcatgatt	actgtagata	1680
ttatcccttc	tggttggaat	tcaactgatg	ggaaaaatga	taaagctaaa	agtgcacctt	1740
caagagaccc	agaaaaactt	cagaaaatca	aagaaagcct	ccttttagag	gactctgatg	1800
atgaagaaga	aggggactta	tgtagaatth	gtcagatggc	agcagcgtca	tcattctaatt	1860
tattgataga	gccgtgcaaa	tgcacaggga	gcctgcagta	cgtccatcaa	gagtgtatga	1920
aaaagtgggt	acaagccaaa	attaattctg	gctcttcatt	agaggctgtg	actacctgtg	1980
aactctgtaa	agagaagtgtg	caacttaacc	tggaggattt	tgatattcat	gaactacata	2040
gagctcatgc	aaatgaacaa	gctgagtatg	agtttatcag	ctctggtctc	tacctagtgtg	2100
tcttactgta	cttgtgtgaa	caaagctttt	ctgatatgat	gggaaataca	attgaaccaa	2160
gcactcgtgt	ccgatttatt	aaccttgcaa	gaactcttca	ggcacatatg	gaagatctcg	2220
aaacttcaga	ggatgaattc	tgaagaagat	ggagaccata	agagaatgct	tgatattgcc	2280
taacttcatt	taagaaaaaa	aaaaaaaagg	atgatctgtg	aacatgttta	ttaaaactgg	2340
caattaagta	tggaataattt	catggggtaa	tgcctagtag	attaattgac	tatacataaa	2400

atgaatatat atatatacat gtataaatgt aaatatatat tcattctcaa gtattgctga 2460  
 actgaaattc ttgagctgga ccctttaaca ctggccagcg aatctcatgt ttataatatg 2520  
 taatccaagc atttttcctt ttggtgagtg ggaaagcatt acccttggtt gaaatatcta 2580  
 aacagtgtc atcaactttc ttctttgttg caattactgt agtcataatt atgggaaaaa 2640  
 aatgtttgtg tattagtctc ttgctagtga aaaaaagtca gataaaatgt ctttttgaaa 2700  
 taaaatgcca atggcaccta 2720

<210> 3  
 <211> 704  
 <212> Polypeptide  
 <213> Homo Sapiens  
 <400> 3

1 meskpsripr risvqpsssl sarmmsgsgrg sslndtyhsr dssfrldsey qstsasasas  
 61 pfqsawyses eitqgarsrs qnqqrhdhsk rpklsctnct tsagrngvng lntlsdsswr  
 121 hsqvprsssm vlgsfgtdlm rerrdlertr dssisnlmdy shrsdftts syvqdrvpsy  
 181 sqgarpkens mstlqlntss tnhqlpsehq tilssrdsrn slrsnfssre sessrsntqp  
 241 gfsysssrde apiisnserv vssqrpqes sdnegrrttr rllsriassm sstffsrrss  
 301 qdslntrsln sensyvspri ltasqsrsv psasevpdnr aseasggfrf lrrrwglssl  
 361 shnhssesds enfnqesegr ntgpwlsssl rnrctplfsr rrregrdess riptsdtssr  
 421 shifresne vvhleaqpnd lgaaanrpqa saasssattg gstsdsaggg rntgisgilp  
 481 gslfrfavpp algsnltdnv mitvdiipsg wnsadgksdk tksapsrdpe rlqkikesll  
 541 ledseeeegd lcricqmaaa ssnlliepc kctgslqyvq qdcmkkwlqa kinsgsslea  
 601 vttcelckek lelnledfdi helhrahane qaeyefissg lylvllhlc eqsfddmmgn  
 661 tnepstrvrf inlartlqah medletsedd seedgdhnrt fdia

<210> 4  
 <211> 693  
 <212> Polypeptide  
 <213> Mus musculus  
 <400> 4

1 meskpsripr risvqpsgsl strmvsgnrg tslnsyhsr dssfrldsey qsasasacas  
 61 pcqpawyses eipqgarara qtqqrhdhsk rpklsctnca stsagrnggs glntvsdssw  
 121 rhsqvprsss mvlgsfgtdl mrerrldrr ressisnlmd ynhrsgdftt ssyvqervps  
 181 sysqgarpke navstlqlns sstnhqlpsd hqtvpsrds srssfrshfs prqsesfrns  
 241 shpafsyfss rnetptisns ergssqrpvr essdnegrrt trrllsrias smsstffsrr  
 301 ssqdslntrs lssenyispr tltsqsrnng tsssdvseg raaeasggfr flrrrwglss  
 361 lsqnhsssepe aenfnqeseg rnsqpwlsll lnrctplfs rrrregrdes srmstdvpp  
 421 rshifrrdsn evvhleaagg slgaaanrpq asgasssaaa ggstpelpqg grnpgltil  
 481 pgsflrfavp palgsnladn vmitvdiips gwnstdgknd kaksapsrdp eklqkikesl

541 lledsddeee gdlcricqma aasssnllie pckctgslqy vhqecmkkwl qakinsgssl  
601 eavttcelck eklqlnledf dihelhrraha neqaeyefis sglylvvllh lceqsfsdmm  
661 gntiepstrv rfinlartlq ahmedletse def